

Claims

- [c1] 1. A field emission display, comprising:
a cathode substrate;
a plurality of column lines on the cathode substrate;
a resistance layer, covering the column lines;
a plurality of gate row lines across the column lines;
an insulation layer under the gate row lines to isolate the gate row lines,
wherein the gate row lines and the insulation layer have a plurality of openings
therein to expose a portion of the resistance layers;
a plurality of micro-tips on the resistance layer in the openings to generate
electrons; and
an anode substrate, located on the gate row lines to construct a vacuum space
between the anode substrate and the cathode substrate.
- [c2] 2. The field emission display according to claim 1, wherein the cathode
substrate includes a glass substrate.
- [c3] 3. The field emission display according to claim 1, wherein the resistance layer
includes a doped silicon layer.
- [c4] 4. The field emission display according to claim 1, wherein the insulation layer
includes an oxide layer.
- [c5] 5. The field emission display according to claim 1, wherein the anode substrate
includes a fluorescent layer and a conductive layer to accelerate electrons to
bombard the fluorescent layer.
- [c6] 6. The field emission display according to claim 1, wherein the micro-tips are
cone shaped.
- [c7] 7. A cathode of a field emission display, comprising:
a cathode substrate;
a plurality of column lines on the cathode substrate;
a resistance layer covering the column lines;
a plurality of gate row lines across the column lines;
an insulation layer located under the gate row lines for isolation, wherein the

insulation layer has a trench exposing the resistance layer between the gate row lines; and

a plurality of micro-tips located on the exposed resistance layer in the trench to generate electrons.

- [c8] 8. The cathode of a field emission display according to claim 7, wherein the cathode substrate includes a glass substrate.
- [c9] 9. The cathode of a field emission display according to claim 7, wherein the resistance layer includes a doped silicon layer.
- [c10] 10. The cathode of a field emission display according to claim 7, wherein the insulation layer includes an oxide layer.
- [c11] 11. The cathode of a field emission display according to claim 7, wherein the micro-tips are cone shaped.
- [c12] 12. A method of forming a cathode of a field emission display, wherein the field emission display has a resistance layer formed on a substrate, an insulation layer formed on the resistance layer, a plurality of gate row lines on the insulation layer and a plurality of micro-tips on the resistance layer in the insulation layer, the characteristic of that:
removing the uncovered insulation layer between the gate row lines to expose the resistance layer.